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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,361	12/11/2001	Stilianos George Roussis	CJB-0109	1159

7590 10/13/2005  
ExxonMobil Research and Engineering Company  
P.O. Box 900  
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EXAMINER

SINGH, PREM C

ART UNIT PAPER NUMBER

1764

DATE MAILED: 10/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/014,361

Applicant(s)

ROUSSIS ET AL.

Examiner

Prem C. Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested:

Atmospheric Equivalent Temperature Analysis in Hydrocarbon Processing.

### ***Oath/Declaration***

The Oath/Declaration is missing from our files. The applicant is requested to provide a copy of the same.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA, 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 3, 4, 6, 7-10, 13, 16, 17, 20, 23 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, and 5 of US Patent 6,534,318. Although the conflicting claims are not identical, they are not patentably distinct from each other because in claim 1 the applicant claims a

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method for producing a residuum from a crude comprising the steps of cooling the sample to about  $-200$  to  $0^{\circ}\text{C}$ , placing the cooled sample in a chamber maintained at  $10^{-3}$  to  $10^{-6}$  Torr and  $340$  to  $540^{\circ}\text{C}$  for 5 to 60 minutes. The US Patent 6,534,318 also discloses the same steps in claim 5.

US Patent 6,534,318 discloses that intermediate products, residues, and aged asphalt can be used instead of or mixed with the crude (Column 8, lines 51-52).

US Patent 6,534,318 discloses that preferred sample sizes are 10-40 mg, though 2-200 mg are envisioned as part of this invention (Column 8, lines 53-54).

US Patent 6,534,318 discloses predicting asphalt performance of the crude or crude residuum from molecular composition by selecting the crude or crude residuum; performing high resolution mass spectrometry on a sample to determine plurality of molecular groups; calculating mean values for each molecular group (Column 9, lines 50-55).

The US Patent 6,534,318 discloses in claim 5 wherein the crude residuum is prepared. Since the applicant prepares vacuum residuum under identical conditions of temperature, residence time, and vacuum in the reaction vessel, as disclosed by the US Patent 6,534,318 in claim 5, the residuum produced by both the processes must be the same.

US Patent 6,534,318 discloses: wherein the crude is blended (claim 4). A method to predict the potential quality of asphalt from crude oils or blends of crude oils of various origins (claim 9). All of which may be performed on crude oil or crude oil blends with known or unknown components and proportions (Claim 10).

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US Patent 6,534,318 discloses that the preferred method is to place a weighed, frozen crude sample in a small closed chamber, that is then roughly pumped down by a mechanical pump, and then opening a passage from the small closed chamber to a chamber with at least 1 L volume at a known vacuum level (Column 8, lines 46-51).

Claims 5, 11, 12, 14, 15, 18, 19, 21, 22 of the applicant are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 5 of U.S. Patent No. 6,534,318 in view of Roussis et al (US Patent 5,808,180).

US Patent 6,534,318 discloses that other information can be determined from analyzing gases from the vacuum pump line or the vacuum chamber depending on whether the vacuum chamber is continuously pumped down or closed off after reaching the required pressure and then exposed to the sample (Column 8, lines 57-61).

US Patent 6,534,318 discloses in claim 5 the process temperature to be fixed at any value in the range of 340 to 540°C and residence time at any value in the range of 5 to 60 minutes during the experiment. US Patent 6,534,318 further teaches that this method uses the distillation profiles of a set of known crudes to calibrate the apparatus for temperature-pressure conditions. Correlation of process temperature readout to AET is determined using calibrant crudes distillation profiles (Column 8, lines 41-45). The patent does not disclose cut temperature yield profiles for unknown crudes.

Figure 5 of Roussis invention presents graph showing cumulative weight % vs boiling point for a Pecan Island crude oil obtained by actual physical distillation and

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GCD/MS analysis (Column 2 lines 33-35). Roussis Table 2 presents a calibration summary for a standard Arab Light crude. Tables 3 and 4 show the physical distillation and GCD/MS wt. and vol. % for Brunei, Murban, Medanitos, Cabinda, and Miandoum crudes (Column 10, lines 43-45).

By combining US Patent 6,534,318 teaching and Roussis invention, it would be obvious to use cut temperature-yield profiles and vary the process temperature and residence time in order to get more data sets on atmospheric equivalent boiling point for different and unknown crudes.

Roussis invention discloses the distillation data for a known standard such as Arab Light crude (Column 9, lines 27-28) in Table 2. This can be used to calibrate process conditions for atmospheric equivalent boiling point and atmospheric equivalent cut temperature.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Woodle (US Patent 3,546,109).

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Woodle invention (Figure 1) discloses the production of atmospheric reduced crude (also called as atmospheric residue, Column 4, lines 53-54, or residuum) from a whole crude.

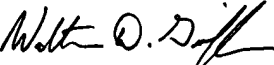
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prem C. Singh whose telephone number is 571-272-6381. The examiner can normally be reached on MF 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ps/ 100705

  
**Walter D. Griffin**  
**Primary Examiner**